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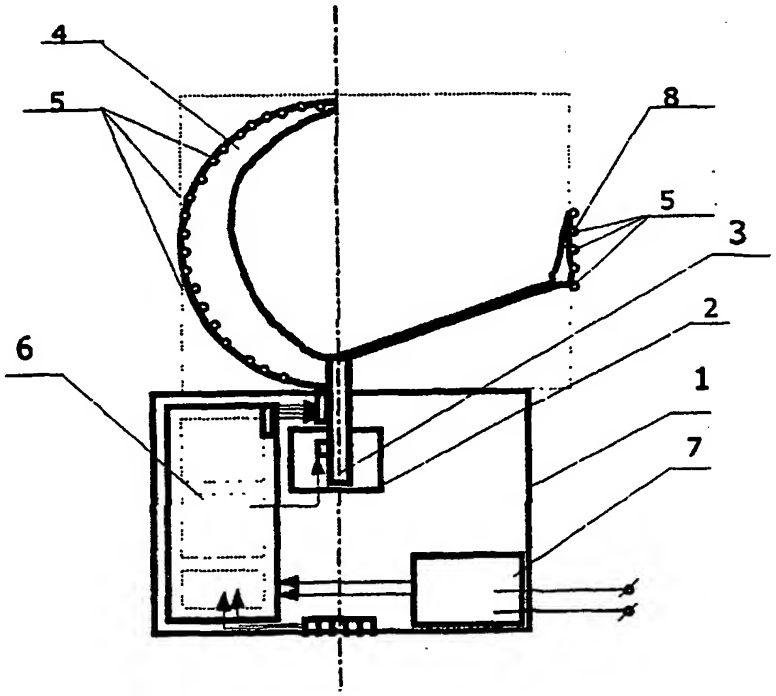
[Continued on next page]

(54) Title: STROBOSCOPIC DISPLAY DEVICE



(57) Abstract: A stroboscopic display device has at least one carrier, associated with a rotary drive shaft, to carry a plurality of point light sources arranged externally on said carrier, and a control unit to cut in and out said light sources. To display advertising messages with the effect of free hovering in the air, the carrier is formed as a rod shaped correspondingly to an appropriate revolution body generatrix and cantilevered onto the drive shaft; the rod thickness commensurable with the cross-section of a point light source, and the rod width sufficient to illusorily disappear from the spectator vision field during gyration. The optical axis of each light source is perpendicular to the revolution body generatrix defined by the carrier shape.

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INTERNATIONAL SEARCH REPORT

International applic[redacted] No 10/069693
PCT/[redacted]0/00024

A. CLASSIFICATION OF SUBJECT MATTER

G09F 19/12, G09F 11/04

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

G09F 19/12, 11/04, 11/10, 13/02, 19/00, 19/18, G11B 15/54, G09G 3/00, B44F 1/00, 1/06

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched:

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
A	FR 2040104 A (KOENIG WOLF) 15-1-1971	1-16
A	SU 70585 A (Ю.В. СУХОТИНСКИЙ) 1959	1-16
A	US 4689604 A (S-V DEVELOPMENT LTD.) Aug. 25, 1987	1-16
A	US 4296562 A (GEORGE A. SANBORN) Oct. 27, 1981	1-16
A	GB 2080594 A (EXIBE, S.A.) 3 Feb 1982	1-16

☐ urther documents are listed in the continuation of Box C. ☐ See patent family annex

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

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"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the documentis taken alone

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"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
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Form PCT/ISA/210 (second sheet)(July 1998)

AMENDED CLAIMS

[received by the International Bureau on 9 April 2001 (09.04.01); original claim 2 amended; remaining claims unchanged (1 page)]

1. A stroboscopic display device including —

at least one carrier of light sources:

a rotary drive kinematically associated with said carrier of light sources by means of a shaft;

a plurality of light sources arranged on the external surface of said carrier:

a control means on the basis of a microprocessor to control said light sources; the control means comprising a sensor to signal said carrier position, a synchroniser to synchronise the operation of light sources, and program means to record and process the data to be displayed and generate commands to cut in and out said light sources

characterized in that —

(a) all the light sources are point light sources:

(b) the carrier is cantilevered onto a shaft of the rotary drive and formed as a carrier which has its —

shape corresponding to an appropriate revolution body generatrix,

thickness commensurable with the cross-section of a point light source, and

width, measured radially, which is sufficient for the carrier to illusorily disappear from the vision field of a spectator when gyrated:

(c) the optical axis of each light source is perpendicular to the revolution body generatrix which is formed by a selected shape of said carrier.

2. The device according to Claim 1 *characterized* in that —

(a) the thickness m of the carrier is defined by the expression

$d_{pls} < m \leq 9d_{pls}$

where d_{pls} is the cross-section of the light emitting surface of a point light source;

(b) the width B of the carrier is determined by the expression

$B \leq 0.1\ R_{max}$

where R_{max} is the radius of the circle described by the point light source which is maximally distanced from the axis of the drive shaft.

3. The device according to Claim 1 *characterized* in that it has in the geometrical plane of said carrier a balancer cantilevered onto the rotary drive shaft oppositely to the carrier.